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**Urban Management Division  
Subdivision and Development Guidelines  
Part C Water Quality Management Guidelines**

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## **10.0 BIN AND CAR WASHING AREAS**

### **10.1 BACKGROUND**

This Chapter provides guidelines for the construction and operation of bin and car washing facilities that may be required as part of large developments such as shopping centres, town houses, commercial premises and subdivisions. The facility may range from a well grassed area to a fully enclosed wash bay with pre-treatment system, trade waste permit and a connection to sewer. It may also apply to activities that are classed as Environmentally Relevant Activities (ERAs) under Queensland's environmental protection legislation.

Wastewaters generated from cleaning domestic rubbish bins and cars can contain a number of pollutants such as oils and greases, heavy metals, surfactants (eg detergents), suspended solids, nutrients, pathogens and gross pollutants (eg litter). These contaminants can cause land and water contamination and be harmful to aquatic organisms. A visual impact may also be associated with the discharge of these wastewaters to stormwater due to the presence of suspended sediment, litter, foams and hydrocarbon films.

The purpose of this Chapter is to specify key issues that must be addressed during the planning and design phase of a development, which intends to incorporate bin and/or car washing facilities.

Note that in most cases, connection of the facility to sewer with an appropriate trade waste permit (obtained from Council) will be needed.

### **10.2 KEY ISSUES/DESIGN CRITERIA**

Given the availability of several commercially operated and sewerage car washes and wash bays around Brisbane, the need for any on-site car washing facilities should be carefully considered.

The functional requirements of on-site rubbish bin and vehicle washing systems are that they must be designed, operated and maintained effectively to ensure:

- all "reasonable and practicable measures" are taken<sup>1</sup> at the design stage to minimise the potential for significant land, groundwater and stormwater contamination;
- any potential for land or water contamination from spills or sprays is minimised;
- solid waste generated as part of the operation of the washing facility is appropriately captured, handled and ultimately disposed at a suitable landfill facility;
- the design and operation of the facility meets relevant health and safety requirements (eg the provision of non-slip surfaces);
- that operational requirements/procedures for the facility are user friendly and documented (eg through simple signage);
- water efficient practices are employed (eg high efficiency sprayers, gun-type nozzles, timer-operated valves, water filtering and recycling);

<sup>1</sup> This terminology originates from S. 36 of the *Environmental Protection Act 1994*, that is, the 'General Environmental Duty' that applies to all persons in Queensland.



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- that maintenance requirements are minimal, low cost and documented;
- that maintenance responsibilities are clearly defined, documented and communicated;
- any discharges to stormwater meet the specified Water Quality Objectives for the receiving environment (see Chapter 2 of Part C of this document)<sup>2</sup>;
- the potential for mosquito breeding in stagnant water is minimised or prevented;
- uncontaminated stormwater should be separated from the wastewater through the use of covered areas, grated interception drains and/or a minimum 2% change in grade.
- pre-treatment and acceptance requirements specified by Council as part of trade waste permits are met at all times for wastewater discharges to Council's sewer system; and
- site selection minimises environmental and social impacts - guidelines include:
  - the potential for nuisance due to odours, spray drift, noise, light, visual impact and/or off-site migration of water must be minimised or prevented (eg through the use of buffers and/or barriers);
  - the facility should not be prone to flooding or be in an overland flow path; and
  - the facility should have access to necessary services (eg power, water, sewerage).
- Connection to sewer may not be necessary if loads of pollutants from car and bin washing are small and there is ample pervious area to allow wastewaters to infiltrate. In such cases, the following guidelines should be used:
  - the number of bins being washed should be #6 domestic mobile garbage bins per week (bins containing non-hazardous, solid waste only);
  - the number of cars being washed should be #6 cars per week;
  - washing should occur where wastewater can infiltrate into a well grassed area, a garden area, and/or a purpose-built infiltration trench;
  - wastewater should not leave the site via stormwater drains or cause erosion;
  - wastewater should be encouraged to move across the ground as sheet flow (rather than concentrated flow);
  - temporary ponding of water may occur as long as infiltration removes the water in less than a hour at any time of the year;
  - signage should give clear instructions to users (eg not to use the area during, immediate after or immediately before wet weather);
  - water conservation practices should be encouraged (eg trigger nozzles);
  - off-site nuisance must be prevented (eg off-site soil wetness or structural instability);
  - bins should be provided for solid wastes (eg litter); and
  - the area must be well maintained at all times (eg well grassed).

<sup>2</sup>

It is acknowledged that this is a difficult goal to achieve for most wastewater types (eg those containing heavy metals), so that in most cases wastewaters must go to sewer or infiltrate into the soil (eg small amounts of domestic car washing on well grassed areas).



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For more information, refer to *Draft Fact Sheets: Charity Car Washing & Hosting Charity Car Wash Events* (Brisbane City Council, 2000).

For other types of development where discharge to sewer is required, the following guidelines are applicable:

- wastewater assessment/characterisation, treatment and disposal requirements will need to be evaluated by a suitably qualified professional (eg a wastewater or environmental engineer);
- a trade waste permit will be required by Council (this process will determine pre-treatment and acceptance criteria);
- a management plan will typically be required that sets out operational procedures, maintenance requirements and maintenance responsibilities;
- infrastructure to minimise the amount of wastewater may be required (eg a covered area or a bund/drain to divert clean stormwater around the area);
- where sewerage is not available, the use of a suitably sized on-site wastewater treatment unit may be required (depending upon site specific conditions such as the nature of the wastewater, soil type, etc); and
- wastewater pre-treatment to remove litter, solids and free-phase (floating) hydrocarbons would typically be required to meet Council's acceptance criteria (eg coarse screening and use of an oil-water separator with a sedimentation chamber).

### **10.3 REFERENCES**

1. Brisbane City Council, 1997. *On-Site Domestic Wastewater Treatment and Disposal Systems Policy*. Brisbane, Brisbane City Council.
2. Brisbane City Council, 2000. *Draft Fact Sheets: Charity Car Washing & Hosting Charity Car Wash Events*. Brisbane, Brisbane City Council.

